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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,233	02/14/2001	Shozo Nagano	30-5000-(4015)-Div2	3214

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David G Latwesen PH D  
Wells St John  
601 West First Avenue  
Suite 1300  
Spokane, WA 99201

EXAMINER
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IP, SIKYIN

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

10

## Office Action Summary

Application No.

09/784,233

Applicant(s)

NAGANO ET AL.

Examiner

Sikyln Ip

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 65-72, 74-77, 81, 82, 84 and 85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 65-72, 74-77, 81, 82, 84 and 85 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/9/05</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 65, 68, and 69 rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 11204524 (see abstract for “sputtering a Cu-Ag alloy thin-film”, [0002] and [0042] for resistivity - because the composition of film 108 is so close to film 106, it appears they would have the same resistivity as pure copper; and [0036] for sputtering Cu-Ag composition – film 106). In view of instant Figure 1, support for the recited target structure, that the target structure reads on film, flat wire, plate, strip, or etc which is met by the product of cited reference.

### **Claim Rejections - 35 USC § 103**

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject

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matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 66, 67, 70-72, 81, 82, and 85 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 11204524 in view of USP 6113761 to Kardokus et al.

JP 11204524 in (abstract and copper alloy film 106 in [0036] disclose(s) the features including the claimed Cu target composition and resistivity except silent about the grain size. However, Kardokus in col. 1, lines 25-30 discloses grain size is known to be less than 50µm in the same field of endeavor or the analogous metallurgical art for uniform film thickness during deposition. Therefore, it is contemplated within ambit of ordinary skill artisan to recognize the Cu-Ag film of JP 11204524 would have the grain size in order to be benefited for the uniform film thickness and faster sputtering speed (Kardokus, col. 1, lines 25-30). In view of instant Figure 1, support for the recited target structure, that the target structure reads on film, flat wire, plate, strip, or etc which is met by the product of cited reference.

Claims 74-77, 81-82, and 84-85 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 6113761 to Kardokus in view of JP 01096374 and JP 11204524.

Kardokus disclose(s) the features including the claimed purity and resistivity (col. 1, lines 15-20), grain size (col. 1, lines 25-30), and stabilizers (col. 1, lines 62-67). The contents of stabilizers (such as Ag, Sn) disclosed by Kardokus is

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lower than the claimed contents. But, Kardokus in col. 5, lines 8-46 discloses the contents for the stabilizers are known to be higher than 1000 ppm in order to increase the recrystallization temperature of pure Cu. JP 01096374 (abstract, Sn) and JP 11204524 ([0042], Ag) are cited to show higher contents of stabilizers such as Sn and Ag, respectively are known in the sputtering art of cited references. Therefore, optimize the result effective variable such as Sn and/or Ag are within ambit of ordinary skill artisan. In view of instant Figure 1, support for the recited target structure, that the target structure reads on film, flat wire, plate, strip, or etc which is met by the product of cited reference.

Claims 74-77, 81, 82, and 84-85 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 57056215, JP 57145954, or JP 50077216 in view of USP 6113761 to Kardokus et al.

JP 57056215, JP 57145954, and JP 50077216 in their abstracts disclose the features including the claimed Cu-Sn-Ag composition except for the PVD target, the grain size, and electrical resistivity. However, the instant claimed "physical vapor deposition target" has no structure and as is shown in instant Figure 1, member 24 reads on a piece of Cu based alloy. Since the instant specification fails to disclose/define the detail structure of claimed "physical vapor deposition target", thus, instant claimed target structure is considered to have a generic structure as disclosed by cited references such as film, wire, plate, stripe, or etc. Kardokus in col. 1, lines 25-30 discloses grain size is known to be less than 50 $\mu$ m in the same field of endeavor or the analogous metallurgical art for uniform film thickness during deposition. With

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respect to the electrical resistivity which is a material property. Thus it would have been inherently possessed by the material of cited JP 57056215, JP 57145954, and JP 50077216. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product.

In re Best, 195 USPQ, 430 and MPEP § 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)."

### ***Response to Arguments***

Applicants' arguments filed July 28, 2005 have been fully considered but they are not persuasive.

Applicants' argument as set forth in pages 8-9 of instant remarks is noted. But, the Cu-Ag alloy film 106 is a sputtered film (see abstract and [0036]).

Applicants' argument as set forth in page 10 of instant remarks is noted. But, the teaching of the fine grain size is for uniform film thickness during sputtering deposition regardless the target composition (Kardokus, col. 1, lines 25-35). The instant claimed Cu-Ag sputtering target composition is taught by JP '524 (see abstract and [0036] film 106).

Applicants' argument with respect to JP '374 is noted. But, applicants' attention is directed to the title of JP '374. The material is for sputtering target.

Applicants' argument in page 12 of instant remarks is noted. But, in instant Figure 1, member 24 has a generic structure of film, flat wire, plate, stripe, or etc. Since the instant specification fails to disclose/define the detail structure of claimed "physical vapor deposition target", thus, instant claimed target structure is considered to have a generic structure such as film, wire, plate, stripe, or etc.

## Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121.

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**Examiner Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Ip  
October 17, 2005



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**PRIMARY EXAMINER**